CLAIM(S)

What is claimed is:

1. A process for multi-layer coating of substrates which comprises the steps of applying at least two coating layers and curing of the applied coatings;

wherein at least one of the coating layers is formed from a coating composition comprising a binder system of resin solids wherein the resin has free-radically polymerizable olefinic double bonds and hydrolysable alkoxysilane groups, wherein the resin solids content of the coating composition has an equivalent weight of C=C double bonds of 200 - 2000 and has a silicon content of 1 - 10 wt-%, wherein the silicon is bound in alkoxysilane groups and wherein the step of curing of the at least one coating layer comprises exposure to thermal energy thereby polymerizing the C=C double bonds via free radical polymerization and exposure to moisture thereby forming siloxane bridges from the alkoxysilane groups.

2. A process according to claim 1, wherein the coating composition comprising a binder system of resin solids having free-radically polymerizable olefinic double bonds and hydrolysable alkoxysilane groups is applied onto a pigmented base coat layer and cured to form a clear coat layer.

3. A process according to claim 1, wherein the coating composition comprising a binder system of resin solids having free-radically polymerizable olefinic double bonds and hydrolysable alkoxysilane groups and being pigmented is applied as a one-layer top coat composition onto a substrate selected from the group consisting of a primer layer, a surfacer layer and a primer/surfacer layer and cured to form a pigmented one-layer top coat layer.

4. A process according to claim 1, wherein the coating composition with a binder system of resin solids having free-radically polymerizable olefinic double bonds and hydrolysable alkoxysilane groups is applied as a transparent sealing coat onto a multi-layer coating to form an outer transparent sealing layer.

5. A process according to claim 1, wherein the resin solids content of the coating composition comprises resins having free-radically polymerizable olefinic double bonds and hydrolysable alkoxysilane groups, an equivalent weight of C=C double bonds of 300 - 1500, and a silicon content of 1 - 7 wt-% wherein the silicon is bound in alkoxysilane groups.

6. A process according to claim 1, wherein the alkoxysilane groups comprise trialkoxysilane groups.

7. A process according to claim 1, wherein the binder system with free-radically polymerizable olefinic double bonds and with hydrolysable alkoxysilane groups additionally comprises hydroxyl groups.

8. A process according to claim 1, wherein the binder system with free-radically polymerizable olefinic double bonds and with hydrolysable alkoxysilane groups comprises polyurethanes with (meth)acryloyl groups and hydrolysable alkoxysilane groups.

9. A process according to claim 1, wherein the thermal energy is applied by a method selected from the group consisting of action of infrared radiation, action of near-infrared radiation, action of convection heat and combinations thereof.

10. A process according to claim 1, which comprises a process for the multi-layer coating of vehicles and vehicle parts.